

test data shown in Tables 1 and 4 which are discussed in detail in the previous Remarks section.

In view of the above amendments to the claims and the previous Response, there is no motivation, suggestion, or reasonable expectation of success to combine Dunn et al. and Gardella et al. references to arrive at the new and unexpected results of a stable surface composition layer of the present invention.

Apart from the claimed stability, an important inventive feature continues to be that the claims require the plasma layer to be bonded directly to the gold substrate. Applicants would be willing to discuss with the Examiner the feasibility of a wholly "consisting essentially of" type claim to emphasize the lack of any intermediate layer between the plasma and the gold. However, Applicants emphasize that whereas Dunn et al. teach an intermediate carbon deposition (such as methane) between a metal substrate and the plasma layer (Page 5, lines 7-10), and Gardella et al. teach a fluorocarbon layer between the gold and the plasma layer (Col. 8, lines 36-29), the claimed invention necessitates the direct deposition of the plasma on the gold. Therefore, it is believed that the "directly" recitation already set forth in the claims makes clear that there is no intermediary layer between the claimed substrate and claimed plasma layer, notwithstanding the teachings by both Dunn et al. and Gardella et al. to add such a middle layer. The Examiner will also appreciate that all of the examples of Dunn et al. identify polystyrene substrates in which the carbon of the polystyrene serves as the carbon source for bonding the plasma. This emphasis by Dunn et al. on carbon bonding highlights Dunn et al.'s belief that the intermediate carbon layer on a metal substrate (such as gold) would be essential. In view of these prior art teachings, the Dunn et al. and Gardella et al. references cannot combine either to teach direct deposition of plasma onto gold or the unexpected benefits of doing so.

Reconsideration of the Examiner's rejections and allowance of claims 25 and 28-48 is respectfully requested.

Respectfully submitted,

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**MARKED UP VERSION OF CLAIMS 25 AND 33**

25. (Twice Amended) A device for investigating reactions between interactive chemical or biological species, said device comprising:

a substrate comprising a film of free electron metal consisting essentially of gold;

and

a plasma layer comprising sulfur deposited directly on [the] said substrate and defining a stable surface composition layer. [wherein the substrate comprises a film of free electron metal consisting essentially of gold, and wherein the plasma layer deposited directly on the film of free electron metal comprises sulfur.]

33. (Twice Amended) A process for producing a device for investigating reactions between interactive chemical and biological species, said process comprising the steps of (a) providing a pre-selected substrate, said substrate comprising a film of free electron metal consisting essentially of gold and (b) arranging a layer comprising sulfur directly on the gold film by plasma deposition[, said layer comprising sulfur] and defining a stable surface composition layer.